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EXAMINER

CLEARY, THOMAS J

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/967,121

Applicant(s)

STRONG, PETER

Examiner

Thomas J. Cleary

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 32 and 33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 32 recites the limitation "a computer program carrier medium" which encompasses both tangible and non-tangible mediums. Claim 33 recites the limitation "communications carrier medium" which encompasses both tangible and non-tangible mediums.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the Applicant regards as his invention.

4. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

5. Claim 12 recites the limitation "the frame portion" in Line 4. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 12 is a method claim, however it is unclear as to what the method is for, as the limitations of the claim recite structural elements and not method steps.

7. Claim 12 recites the limitation "the transmit node identification" in Line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 9, 13, 27, 30, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent Application Number 0491495 to Gitlin et al. ("Gitlin").

10. In reference to Claim 1, Gitlin discloses a method of transmission of data messages between a plurality of stations interconnected by a bus line, wherein each said message includes a frame portion representing content and priority information of

the data message (See Figure 1 Number 22) and a data portion representing data to be transmitted (See Figure 1 Number 24), the method comprising the steps of causing at least one of said plurality of stations to transmit a data message on to the bus line such that said frame portion thereof is transmitted at a first data transmission rate (See Figure 1 Number 22 and Column 3 Lines 31-35), and the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate (See Figure 1 Number 24 and Column 3 Lines 35-38). Gitlin further discloses allowing a user to manually select a line card having a data transmission rate to provide a desired signal quality and allowing the user to manually replace the line card with a line card having a different signal rate providing a different signal quality (See Abstract).

11. In reference to Claim 9, Gitlin discloses the limitations as applied to Claim 1 above. Gitlin further discloses that the header is processed by the switching nodes (See Column 3 lines 31-42) and thus inherently contains information representing the station to which the message is directed.

12. In reference to Claim 13, Gitlin discloses an apparatus for transmitting data messages between a plurality of stations interconnected by a bus line, each of said data messages including a frame portion representing content and priority information of the data message (See Figure 1 Number 22) and a data portion representing data to be transmitted (See Figure 1 Number 24), the apparatus comprising: means for transmitting a data message on said bus line such that said frame portion thereof is

transmitted at a first data transmission rate (See Figure 1 Number 22 and Column 3 Lines 31-35), and said data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate (See Figure 1 Number 24 and Column 3 Lines 35-38). Gitlin further discloses allowing a user to manually select a line card having a data transmission rate to provide a desired signal quality and allowing the user to manually replace the line card with a line card having a different signal rate providing a different signal quality (See Abstract).

13. In reference to Claim 27, Gitlin discloses the limitations as applied to Claim 13 above. Gitlin further discloses that the header is processed by the switching nodes (See Column 3 lines 31-42) and thus inherently contains information representing the station to which the message is directed.

14. In reference to Claim 30, Gitlin discloses the limitations as applied to Claim 13 above. Gitlin further discloses that the header is processed by the switching nodes (See Column 3 lines 31-42) and thus inherently contains information representing the station to which the message was transmitted.

15. In reference to Claim 31, Gitlin discloses the limitations as applied to Claim 1 above. Gitlin further discloses that the encoding is performed at the transmitting device (See Column 3 Lines 24-38) and thus is executed by a processor under control of instructions embodying computer program means.

16. In reference to Claim 32, Gitlin discloses the limitations as applied to Claim 31 above. The computer program means of Gitlin are inherently a portion of a computer program carrier medium.

17. Claim 12 are rejected under 35 U.S.C. 102(b) as being anticipated by The Microsoft Press Computer Dictionary, Second Edition ("Microsoft").

18. In reference to Claim 12, Microsoft discloses a method wherein the frame portion contains information representing the transmit node identification (See entry 'header').

19. Claims 1, 11, 13, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Number 5,253,250 to Schlafer et al. ("Schlafer").

20. In reference to Claim 1, Schlafer discloses a method of transmission of data messages between a plurality of stations interconnected by a bus line, wherein each said message includes a frame portion representing content and priority information of the data message (See Figure 3 Number 320 and Column 3 Lines 23-25) and a data portion representing data to be transmitted (See Figure 3 Number 310 and Column 3 Lines 23-25), the method comprising the steps of causing at least one of said plurality of stations to transmit a data message on to the bus line such that said frame portion thereof is transmitted at a first data transmission rate (See Column 3 Lines 33-38), and

the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate (See Column 3 Lines 31-33). Schlafer further discloses allowing a user to manually select a receiver having a data transmission rate to provide a desired signal quality and allowing the user to manually replace the receiver with a receiver having a different signal rate providing a different signal quality (See Column 2 Lines 13-42).

21. In reference to Claim 11, Schlafer discloses the limitations as applied to Claim 1 above. Schlafer further discloses that the second data transmission rate is an integral multiple of the first data transmission rate (See Column 3 Lines 38-40).

22. In reference to Claim 13, Schlafer discloses an apparatus for transmitting data messages between a plurality of stations interconnected by a bus line, each of said data messages including a frame portion representing content and priority information of the data message (See Figure 3 Number 320 and Column 3 Lines 23-25) and a data portion representing data to be transmitted (See Figure 3 Number 310 and Column 3 Lines 23-25), the apparatus comprising: means for transmitting a data message on said bus line such that said frame portion thereof is transmitted at a first data transmission rate (See Column 3 Lines 33-38), and said data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate (See Column 3 Lines 31-33). Schlafer further discloses allowing a user to manually select a receiver having a data transmission rate to provide a desired signal quality and allowing

the user to manually replace the receiver with a receiver having a different signal rate providing a different signal quality (See Column 2 Lines 13-42).

23. In reference to Claim 29, Schlafer discloses the limitations as applied to Claim 13 above. Schlafer further discloses that the second data transmission rate is an integral multiple of the first data transmission rate (See Column 3 Lines 38-40).

24. Claims 1 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent Application Publication Number 0260470 to Maxwell et al. ("Maxwell").

25. In reference to Claim 1, Maxwell discloses a method of transmission of data messages between a plurality of stations interconnected by a bus line, wherein each said message includes a frame portion representing content and priority information of the data message (See Abstract and Column 2 Line 54 – Column 3 Line 3) and a data portion representing data to be transmitted (See Abstract and Column 3 Lines 3-5), the method comprising the steps of causing at least one of said plurality of stations to transmit a data message on to the bus line such that said frame portion thereof is transmitted at a first data transmission rate (See Abstract and Column 2 Line 54 – Column 3 Line 3), and the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate (See Abstract and Column 3 Lines 3-5), and adjusting at least one of said first data transmission rate and

said second data transmission rate in dependence on a signal quality determined for transmission on said bus line (See Column 3 Lines 24-33).

26. In reference to Claim 13, Schlafer discloses an apparatus for transmitting data messages between a plurality of stations interconnected by a bus line, each of said data messages including a frame portion representing content and priority information of the data message (See Abstract and Column 2 Line 54 – Column 3 Line 3) and a data portion representing data to be transmitted (See Abstract and Column 3 Lines 3-5), the apparatus comprising: means for transmitting a data message on said bus line such that said frame portion thereof is transmitted at a first data transmission rate (See Abstract and Column 2 Line 54 – Column 3 Line 3), and said data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate (See Abstract and Column 3 Lines 3-5), and means for adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on a signal quality determined for transmission on said bus line (See Column 3 Lines 24-33).

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claims 2, 3, 4, 14, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin as applied to Claims 1 and 13 above, and further in view of The Free On-Line Dictionary of Computing ("FOLDOC").

29. In reference to Claim 2, Gitlin teaches the limitations as applied to Claim 1 above. Gitlin does not teach causing at least one further station to transmit onto the bus line an acknowledgment signal indicating receipt of said data message. FOLDOC teaches that it is well known in the art to send an acknowledgment signal after correctly receiving a message (See entry 'ACK').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the acknowledgment signal of FOLDOC in the device of Gitlin, resulting in the invention of Claim 2, in order to allow the sender to determine if the message was correctly received and thus determine if the data must be sent again (See entry 'ACK' in FOLDOC).

30. In reference to Claim 3, Gitlin and FOLDOC teach the limitations as applied to Claim 2 above. FOLDOC inherently teaches transmitting a further data message in response to receipt of an acknowledgment signal (See entry 'ACK').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the acknowledgment signal of FOLDOC in the device of Gitlin, resulting in the invention of Claim 3, in order to allow the sender to determine if

the message was correctly received and thus determine if the data must be sent again (See entry 'ACK' in FOLDDOC).

31. In reference to Claim 4, Gitlin and FOLDDOC teach the limitations as applied to Claim 2 above. FOLDDOC further teaches retransmitting a message if no acknowledgment signal is received (See entry 'ACK').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the acknowledgment signal of FOLDDOC in the device of Gitlin, resulting in the invention of Claim 4, in order to allow the sender to determine if the message was correctly received and thus determine if the data must be sent again (See entry 'ACK' in FOLDDOC).

32. In reference to Claim 14, Gitlin teaches the limitations as applied to Claim 13 above. Gitlin does not teach means responsive to receiving a data message to transmit an acknowledgment signal on said bus line. FOLDDOC teaches that it is well known in the art to send an acknowledgment signal after correctly receiving a message (See entry 'ACK').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the acknowledgment signal of FOLDDOC in the device of Gitlin, resulting in the invention of Claim 14, in order to allow the sender to determine if the message was correctly received and thus determine if the data must be sent again (See entry 'ACK' in FOLDDOC).

33. In reference to Claim 15, Gitlin and FOLDOC teach the limitations as applied to Claim 13 above. FOLDOC inherently teaches transmitting a further data message in response to receipt of an acknowledgment signal (See entry 'ACK').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the acknowledgment signal of FOLDOC in the device of Gitlin, resulting in the invention of Claim 15, in order to allow the sender to determine if the message was correctly received and thus determine if the data must be sent again (See entry 'ACK' in FOLDOC).

34. In reference to Claim 16, Gitlin and FOLDOC teach the limitations as applied to Claim 14 above. FOLDOC further teaches retransmitting a message if no acknowledgment signal is received (See entry 'ACK').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the acknowledgment signal of FOLDOC in the device of Gitlin, resulting in the invention of Claim 16, in order to allow the sender to determine if the message was correctly received and thus determine if the data must be sent again (See entry 'ACK' in FOLDOC).

35. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin and FOLDOC as applied to Claims 4 and 16 above, and further in view of US Patent Number 6,157,935 to Tran et al. ("Tran").

36. In reference to Claim 5, Gitlin and FOLDOC teach the limitations as applied to Claim 4 above. Gitlin and FOLDOC do not teach generating an error message prior to re-transmission of said message. Tran teaches sending a time-out message indicating that the receiver did not acknowledge receipt of the message (See Column 8 Lines 60-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Gitlin and FOLDOC with the time-out message of Tran, resulting in the invention of Claim 5, in order to provide an indication to the user that the receiver did not timely acknowledge receipt of the message (See Column 8 Lines 60-66 of Tran).

37. In reference to Claim 17, Gitlin and FOLDOC teach the limitations as applied to Claim 16 above. Gitlin and FOLDOC do not teach generating an error message prior to re-transmission of said message. Tran teaches sending a time-out message indicating that the receiver did not acknowledge receipt of the message (See Column 8 Lines 60-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Gitlin and FOLDOC with the time-out message of Tran, resulting in the invention of Claim 17, in order to provide an indication to the user that the receiver did not timely acknowledge receipt of the message (See Column 8 Lines 60-66 of Tran).

38. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin, FOLDOC, and Tran as applied to Claims 5 and 17 above, and further in view of US Patent Number 6,529,935 to Joergensen ("Joergensen").

39. In reference to Claim 6, Gitlin, FOLDOC, and Tran teach the limitations as applied to Claim 5 above. Gitlin, FOLDOC, and Tran do not teach adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on the frequency of generation of said error messages. Joergensen teaches adjusting a data transmission rate in dependence on the frequency of generation of errors (See Column 1 Line 66 – Column 2 Line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin, FOLDOC, and Tran with the error rate determination and data transmission rate control of Joergensen, resulting in the invention of Claim 6, in order to reduce the errors on a link segment (See Column 1 Lines 6-8 and Lines 46-63 of Joergensen).

40. In reference to Claim 18, Gitlin, FOLDOC, and Tran teach the limitations as applied to Claim 17 above. Gitlin, FOLDOC, and Tran do not teach adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on the frequency of generation of said error message. Joergensen

teaches adjusting a data transmission rate in dependence on the frequency of generation of errors (See Column 1 Line 66 – Column 2 Line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin, FOLDOC, and Tran with the error rate determination and data transmission rate control of Joergensen, resulting in the invention of Claim 18, in order to reduce the errors on a link segment (See Column 1 Lines 6-8 and Lines 46-63 of Joergensen).

41. Claims 7, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin as applied to Claims 1 and 13 above, and further in view of Joergensen.

42. In reference to Claim 7, Gitlin teaches the limitations as applied to Claim 1 above. Gitlin does not teach determining the frequency of received data messages comprising an error and adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on the frequency of generation of received data messages comprising an errors. Joergensen teaches adjusting a data transmission rate in dependence on the frequency of received messages comprising an error (See Column 1 Line 66 – Column 2 Line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin with the error rate determination and data transmission rate control of Joergensen, resulting in the invention of Claim 7,

in order to reduce the errors on a link segment (See Column 1 Lines 6-8 and Lines 46-63 of Joergensen).

43. In reference to Claim 19, Gitlin teaches the limitations as applied to Claim 1 above. Gitlin does not teach determining whether a data message comprises an error. Joergensen teaches determining whether a data message comprises an error (See Column 1 Line 66 – Column 2 Line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin with the error rate determination of Joergensen, resulting in the invention of Claim 19, in order to reduce the errors on a link segment (See Column 1 Lines 6-8 and Lines 46-63 of Joergensen).

44. In reference to Claim 20, Gitlin teaches the limitations as applied to Claim 1 above. Gitlin does not teach that said means for determining whether a data message comprises an error includes a Cyclic Redundancy Checker. Joergensen teaches the use of a Cyclic Redundancy Checker to determine whether a message has an error (See Column 2 Lines 53-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin with the error rate determination of Joergensen, resulting in the invention of Claim 20, in order to reduce the errors on a link segment (See Column 1 Lines 6-8 and Lines 46-63 of Joergensen).

45. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin and Joergensen as applied to Claim 7 above, and further in view of UK Patent Application Publication Number GB 2314487 to Gfeller et al. ("Gfeller").

46. In reference to Claim 8, Gitlin and Joergensen teach the limitations as applied to Claim 7 above. Gitlin and Joergensen do not teach determining received signal strength for a data message and adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on said received signal strength determination in combination with said frequency of received data messages comprising an error. Gfeller teaches monitoring the signal to noise ratio (SNR) and adjusting a signaling rate based on the SNR (See Page 9 Lines 23-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Gitlin and Joergensen with the SNR monitoring and rate adjustment of Gfeller, resulting in the invention of Claim 8, in order to provide the optimum signal rate that provides the best signal strength for the medium (See Page 9 Lines 26-29 of Gfeller).

47. Claims 10 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin as applied to Claims 1 and 13 above, and further in view of US Patent Number 5,142,550 to Tymes ("Tymes").

48. In reference to Claim 10, Gitlin teaches the limitations as applied to Claim 1 above. Gitlin does not teach that the frame portion contains information representing the size of the corresponding data portion. Tymes teaches that it is well known in the art for a header to contain a field indicating the size of the data (See Column 12 Lines 59-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin with the data size header field of Tymes, resulting in the invention of Claim 10, in order to provide an indication of how many bites of data are to follow the header (See Column 12 Lines 61-62 of Tymes).

49. In reference to Claim 28, Gitlin teaches the limitations as applied to Claim 13 above. Gitlin does not teach that the frame portion contains information representing the size of the corresponding data portion. Tymes teaches that it is well known in the art for a header to contain a field indicating the size of the data (See Column 12 Lines 59-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin with the data size header field of Tymes, resulting in the invention of Claim 28, in order to provide an indication of how many bites of data are to follow the header (See Column 12 Lines 61-62 of Tymes).

50. Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin and Joergensen as applied to Claim 20 above, and further in view of US Patent Number 6,385,210 to Overberg et al. ("Overberg").

51. In reference to Claim 21, Gitlin and Joergensen teach the limitations as applied to Claim 20 above. Gitlin and Joergensen do not teach an error register for holding a value indicative of the level of received messages comprising an error, and means for decrementing said value for a received data message determined not to comprise an error and incrementing said value for a received data message determined to comprise an error. Overberg teaches an error counter in which the value is incremented when a message is not properly received and decremented when a message is properly received (See Column 7 Lines 20-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Gitlin and Joergensen with the error counter of Overberg, resulting in the invention of Claim 21, in order to allow faulty nodes on a bus to be taken off the bus and not communicated with, thus preventing said faulty nodes from disrupting communication on the bus (See Column 7 Lines 23-28 of Overberg).

52. In reference to Claim 24, Gitlin teaches the limitations as applied to Claim 21 above. Gitlin does not teach processing means for adjusting at least one of said first data transmission rate and said second data transmission rate in dependence on the

content of said error register. Joergensen teaches adjusting a data transmission rate in dependence on the frequency of received messages comprising an error (See Column 1 Line 66 – Column 2 Line 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin with the error rate determination and data transmission rate control of Joergensen, resulting in the invention of Claim 24, in order to reduce the errors on a link segment (See Column 1 Lines 6-8 and Lines 46-63 of Joergensen).

53. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin as applied to Claim 13 above, and further in view of Gfeller.

54. In reference to Claim 22, Gitlin teaches the limitations as applied to Claim 13 above. Gitlin does not teach a received signal strength measurement unit for measuring signal strength of a received data message. Gfeller teaches monitoring the signal to noise ratio (SNR) and adjusting a signaling rate based on the SNR (See Page 9 Lines 23-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Gitlin with the SNR monitoring and rate adjustment of Gfeller, resulting in the invention of Claim 22, in order to provide the optimum signal rate that provides the best signal strength for the medium (See Page 9 Lines 26-29 of Gfeller).

55. Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin and Gfeller as applied to Claim 22 above, and further in view of US Patent Number 6,256,358 to Whikehart et al. ("Whikehart").

56. In reference to Claim 23, Gitlin and Gfeller teach the limitations as applied to Claim 22 above. Gitlin and Gfeller do not teach a signal strength register for holding a value representative of the level of received signal strength. Whikehart teaches a register for holding a value representative of the level of received signal strength (See Figure 6 and Column 6 Lines 44-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Gitlin and Gfeller with the signal strength register of Whikehart, resulting in the invention of Claim 22, in order to provide an indicator of signal reception quality (See Column 6 Lines 44-46 of Whikehart).

57. In reference to Claim 25, Gitlin, Gfeller, and Whikehart teach the limitations as applied to Claim 23 above. Gfeller further teaches adjusting a signaling rate based on the SNR (See Page 9 Lines 23-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Gitlin and Gfeller with the signal strength register of Whikehart, resulting in the invention of Claim 25, in order to provide an indicator of signal reception quality (See Column 6 Lines 44-46 of Whikehart).

58. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin as applied to Claim 13 above, and further in view of Joergensen, Overberg, Gfeller, and Whikehart.

59. In reference to Claim 26, Gitlin teaches the limitations as applied to Claim 13 above. Gitlin does not teach means for determining whether a data message comprises an error; an error register for holding a value indicative of the level of received messages comprising an error; a received signal strength measurement unit of measuring signal strength of a received data message; a signal strength register for holding a value representative of received signal strength; an processing means configured to adjust said first data transmission rate and said second data transmission rate in dependence on the content of said signal strength register. Joergensen teaches determining whether a data message comprises an error (See Column 1 Line 66 – Column 2 Line 6). Overberg teaches an error counter in which the value is incremented when a message is not properly received and decremented when a message is properly received (See Column 7 Lines 20-23). Gfeller teaches monitoring the signal to noise ratio (SNR) and adjusting a signaling rate based on the SNR (See Page 9 Lines 23-26). Whikehart teaches a register for holding a value representative of the level of received signal strength (See Figure 6 and Column 6 Lines 44-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin with the error rate determination of

Joergensen, the error counter of Overberg, the SNR monitoring and rate adjustment of Gfeller, and the signal strength register of Whikehart, resulting in the invention of Claim 26, in order to reduce the errors on a link segment (See Column 1 Lines 6-8 and Lines 46-63 of Joergensen); to allow faulty nodes on a bus to be taken off the bus and not communicated with, thus preventing said faulty nodes from disrupting communication on the bus (See Column 7 Lines 23-28 of Overberg); to provide the optimum signal rate that provides the best signal strength for the medium (See Page 9 Lines 26-29 of Gfeller); and to provide an indicator of signal reception quality (See Column 6 Lines 44-46 of Whikehart).

60. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gitlin as applied to Claims 32 above, and further in view of FOLDLOC.

61. In reference to Claim 33, Gitlin teaches the limitations as applied to Claim 32 above. Gitlin does not teach that said computer program carrier medium comprises one of a magnetic storage medium, optical storage medium, solid state storage medium, or communications carrier medium. FOLDLOC teaches storing programs on a ROM, which is a solid state storage medium (See entry 'Read-Only Memory').

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the device of Gitlin with the ROM of FOLDLOC, resulting in the invention of Claim 33, because ROM provides non-volatile storage and

is commonly used to hold programs for embedded systems (See entry 'Read-Only Memory' in FOLDDOC).

Response to Arguments

62. Applicant's arguments with respect to Claims 1-33 have been considered but are moot in view of the new ground(s) of rejection. Applicant has argued that the data transmission rate is different from the data repetition rate of the prior art. In light of Applicant's arguments, the Examiner will interpret the data transmission rate to be the bit rate of the data transmission having no repetition rather than the aggregate overall bit rate as previously considered.

Conclusion

63. The following prior art made of record and not relied upon is considered pertinent to Applicant's disclosure: US Patent Number 4,589,111 to Adachi.

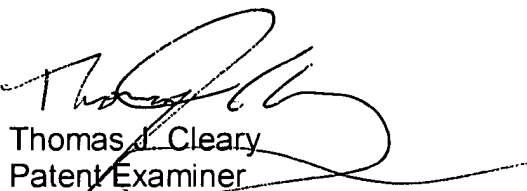
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Thomas J. Cleary whose telephone number is 571-272-3624. The Examiner can normally be reached on Monday-Thursday (7-3:30), Alt. Fridays (7-2:30).

Art Unit: 2111

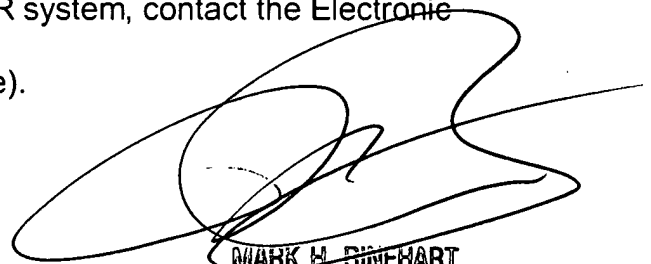
If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark H. Rinehart can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJC



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Art Unit 2111



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